

INSTALLATION INSTRUCTION-50 Hz

GENERAL.....	3
NOTES, CAUTIONS AND WARNINGS.....	3
INSPECTION	3
NOMENCLATURE	4
MAINTENANCE	19

SEE THE FOLLOWING PAGE FOR A COMPLETE TABLE OF CONTENTS LISTING.

CAUTION: READ ALL SAFETY GUIDES BEFORE YOU
START TO INSTALL YOUR UNIT.

SAVE THIS MANUAL

SPLIT-SYSTEM EVAPORATOR BLOWER

MODELS: LA300
LB360
LB480
LB600

(50 Hz)

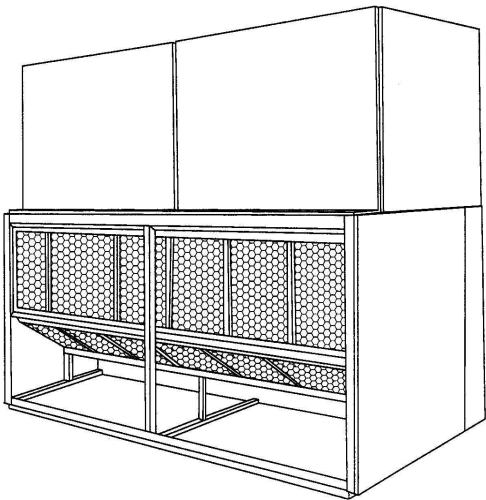
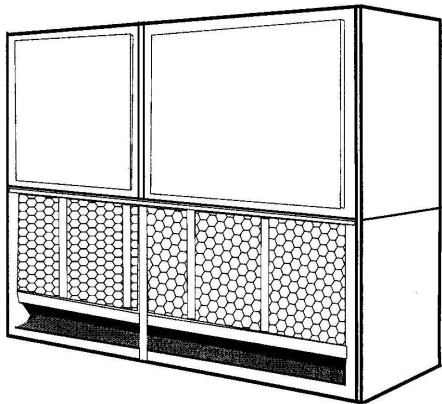


TABLE OF CONTENTS

GENERAL	3
NOTES, CAUTIONS AND WARNINGS	3
REPLACEMENT PARTS	3
INSPECTION	3
LIMITATIONS	3
BLOWER MOTOR MOUNTING LOCATIONS	6
LA300/LB360/LB480 MOTOR MOUNTING	6
LB600 MOTOR MOUNTING	6
MOTOR MOUNT ARRANGEMENTS	7
LA300/LB360/LB480 MOTOR ARRANGEMENTS	7
ADDITIONAL MOTOR ARRANGMENTS FOR LA300/ LB360/LB480	7
LB600 MOTOR ARRANGEMENTS	8
RE-LOCATING THE LB600 MOTOR MOUNTING PLATE	8
ALTERNATE POSITION ONE	8
ALTERNATE POSITION TWO	8
ALTERNATE POSITION THREE	8
AIR DISCHARGE CONVERSION	8
LA360/LB360/LB480 AIR DISCHARGE	8
LB600 AIR DISCHARGE	10
UNIT INSTALLATION	10
LOCATION	10
RIGGING	10
CLEARANCES	10
MOUNTING	11
DUCT CONNECTIONS	14
INSULATION	14
SUPPLY AIR DUCTS	14
RETURN AIR DUCT ANGLES	15
DRAIN CONNECTIONS	15
REFRIGERANT MAINS	15
EVAPORATOR SECTION PIPING	16
EXPANSION VALVE BULB INSTALLATION	16
LA300	16
LB360/LB480/LB600	16
BEARING ALIGNMENT: LB600	16
AIR SYSTEM ADJUSTMENT	17
TWIN BELT DRIVE ADJUSTMENT	17
ELECTRICAL CONNECTIONS	17
MAINTENANCE	19

LIST OF FIGURES

#		pg. #
1	PRODUCT NOMENCLATURE	4
2	LA300 AN LB360/LB480 FACTORY MOTOR MOUNTING POSITION	6
3	LB600 FACTORY MOTOR MOUNTING POSITION ..	6
4	LB600 MOTOR MOUNT PLATE	6
5	LA300/LB360/LB480 MOTOR LOCATION A	7
6	LA300/LB360/LB480 MOTOR ARRANGEMENTS ...	7
7	VERTICAL AIRFLOW ARRANGEMENTS	9
8	HORIZONTAL AIRFLOW ARRANGEMENTS	9

LIST OF FIGURES (CONT.)

#		pg. #
9	LB600 AIRFLOW ARRANGEMENTS	10
10	DETAILS FOR SECURING BOTTOM MOUNTING SUPPORTS	12
11	LA300/LB480/LB360 WEIGHT DISTRIBUTION ...	12
12	LB600 WEIGHT DISTRIBUTION WITH SUSPENSION APPLICATION	13
13	DETAILS FOR SECURING SUSPENSION CHANNELS	14
14	SUGGESTED METHOD FOR CONNECTING DUCTWORK	15
15	RECOMMENDED DRAIN PIPING	15
16	LB600 CENTER BEARING	17
17	DOUBLE GROOVE PULLEY	17
18	UNIT DIMENSIONS - LA300, LB360, 480	22
19	LA300 PIPING CONNECTIONS	23
20	LB360 PIPING CONNECTIONS	23
21	LB480 PIPING CONNECTIONS	23
22	UNIT DIMENSIONS	24
23	LB600 PIPING CONNECTIONS DETAIL	24
24	25-TON PRESSURE DROP VS. CFM ACROSS INDOOR COIL	25
25	30-TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL	25
26	40 TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL (DOMESTIC)	26
27	40-TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL (INTERNATIONAL)	26
28	50 TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL	27
29	INDOOR UNIT WIRING DIAGRAM LB360, 480 & 600	28
30	INDOOR WIRING DIAGRAM LA300	29

LIST OF TABLES

#		pg. #
1	UNIT APPLICATION DATA	4
2	PHYSICAL DATA	5
3	UNIT MOUNTING DIMENSIONS	11
4	CORNER WEIGHTS	11
5	ACCESSORY OPERATING WEIGHT DISTRIBUTION (LBS)	11
6	ELECTRICAL DATA	18
7	UNIT DRIVE DATA	19
8	UNIT BLOWER MOTOR DATA	19
9	FAN PERFORMANCE DATA - 25-TON	20
10	FAN PERFORMANCE DATA - 30-TON	20
11	FAN PERFORMANCE DATA - 40 TON	20
12	FAN PERFORMANCE DATA - 50 TON	21
13	UNIT DIMENSIONS - LA300, LB360, LB480	22

GENERAL

The LA and LB evaporator units are designed for use with the HA/HB Series condensing units. Units are designed to match up with LA/LB series Evaporator Blowers to meet ASHRAE 90.1 standards.

Each unit consists of a coil section and a blower section that are factory assembled and shipped as shown in figures 3 and 4. These sections may be rearranged in the field for other air discharge patterns. See figures 7, 8 and 9.

The LA and LB evaporator units have 24 volt normally closed solenoid valves to match the 24-volt control circuits of the Simplicity™ control board in the HA300 as well as the HB360, HB480 and HB600 condensing units.

NOTES, CAUTIONS AND WARNINGS

Installer should pay particular attention to the words: NOTE, CAUTION and WARNING. Notes are intended to clarify or make installation easier. Cautions are given to prevent equipment damage. Warnings are given to alert installer that personal injury and/or equipment damage may result if installation procedure is not handled properly.

REPLACEMENT PARTS

Refer to parts manual for complete listing of replacement parts on this equipment. The above forms and all other forms referenced on this instruction may be ordered from;

Standard Register
2101 W. Tecumseh Road
Norman, OK 73069
Tel: (405) 292-1127
Fax: (405) 364-7869

INSPECTION

As soon as a unit is received, it should be inspected for possible damage during transit. If damage is evident, the extent of the damage should be noted on the carrier's freight bill. A separate request for inspection by the carrier's agent should be made in writing.

LIMITATIONS

This unit must be installed in accordance with all national and local safety codes. If no local codes apply, installation must conform to the appropriate national code. The unit is designed to meet National Safety Code Standards. If components are to be added to a unit to meet local codes, they are to be installed at the dealer's and/or the customer's expense. See Table 1 for unit application data.

PRODUCT NOMENCLATURE

YORK OUTDOOR SPLIT CONDENSING UNITS AND HEAT PUMPS

L A 300 C 00 A 7 A AA 1 A

Model #	Model Number Description	Options
L	Product Category	L = Air Handling Unit F = Air Handling Unit - Heat Pump
A	Product Identifier	A = R-22 Standard Efficiency 2-Pipe B = R-22 Standard Efficiency 4-Pipe
300	Nominal Cooling Capacity MBH	300 = 25 Ton * 360 = 30 Ton * 480 = 40 Ton * 600 = 50 Ton *
C	Heat Type	C = Cooling Only
00	Nominal Heating Capacity	00 = No Heat Installed
A	Airflow Options	A = None
7	Voltage	7 = 380/415-3-50
A	Installation Options	A = None
AA	Additional Options	AA = None
1	Product Generation	1 = First Generation 2 = Second Generation
A	Product Style	A = Style A B = Style B

***NOT AVAILABLE IN HEAT PUMP**

FIGURE 1: PRODUCT NOMENCLATURE

NOTE: LB600 Indoor Unit matches with both HB480 and HB600 Outdoor Condensing Units for maximum efficiency.

TABLE 1: UNIT APPLICATION DATA

Model	Power Supply Voltage	Voltage Variation		Supply Air Range CFM		Entering Air Temperature Degrees °F			
						Cooling DB/WB		Heating DB*	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
LA300	380/415-3-50	342	456	8,000	12,000	65/57	95/72	40	77
LB360	380/415-3-50	342	456	10,000	14,000	65/57	95/72	40	77
LB480	380/415-3-50	342	456	12,800	19,200	65/57	95/72	40	77
LB600	380/415-3-50	342	456	16,000	24,000	65/57	95/72	40	77

*: Heating Min/Max temperatures apply to steam and hot water coils. NOTE: Do not apply steam to hot water coils.

TABLE 2: PHYSICAL DATA

DESCRIPTION			MODEL			
			LA300	LB360	LB480	LB600
EVAPORATOR COIL	Rows Deep X Rows High		4 x 40	4 x 40	4 x 50	4 x 62
	Finned Length, Inches		93	93	96	96
	Face Area, Feet ²		25.8	25.8	33.3	41.3
	Tube (copper) OD, Inches		3/8	3/8	3/8	3/8
	Fins (Aluminum) per 1 inch		16	16	16	16
	Piping Connections, Inches	Liquid, Inches Suction, Inches	7/8 2 1/8	7/8 1 1/8	7/8 1 3/8	7/8 2 1/8
CENTRIFUGAL BLOWERS (2 PER UNIT)	Diameter X Width, Inches (Forward Curved)		18 x 18			20 x 18
FILTERS (THROWAWAY)	Size and Quantity Per Model, Inches	16 x 20 x 2	-		6	-
		20 x 20 x 2	-		3	-
		20 x 22 x 2	-		-	-
		16 x 25 x 2	-		-	6
		20 x 25 x 2	10	6	3	
		25 x 25 x 2	-	-	6	
	Total Face Area / feet ²		34.7		42.6	53.1
OPERATING CHARGE (LBS R-22)	System 1		49.65	30.08	37.83	46.59
	System 2		-	30.08	37.83	46.59
DRAINABLE HOT WATER COIL ACCESSORY	Tube (copper) OD, Inches		1/2		1/2	1/2
	Rows Deep		2		2	2
	Fins (Aluminum) per 1 inch		12		12	8
	Face Area, Feet ²		21.2		27.2	27.2
	Connections (Supply & Return), Inches		1 3/8 OD (Copper)		1 5/8 OD (Copper)	
NON-FREEZE, STEAM DISTRIBUTING COIL ACCESSORY	Tube (copper) OD, inches		1 (Outside) 5/8 (Inside)		N/A	
	Rows Deep		1			
	Fins (Aluminum) per 1 inch		8			
	Face Area, feet ²		18.2			
	Connection, (Brass) Inches (NPTE)	Inlet Outlet	2 1-1/2			
COMPONENT WEIGHT	Basic Unit (Less Motor & Drive)		980	980	1260	1474
	Shipping Weight (lbs)		1180	1180	1510	-
	Operating Weight (lbs)		1125	1146	1426	1640
	Accessories	Hot Water Coil	150	150	190	190
		Steam Coil	160	160	-	-
	Blower Motor (1500 RPM)		117 (5hp)	117 (5hp)	-	-
			120 (7.5hp)	120 (7.5hp)	120 (7.5hp)	141 (10hp)
-			141 (10hp)	141 (10hp)	-	

BLOWER MOTOR MOUNTING LOCATIONS

Units are shipped from the factory less motor and drives. The blower motor and drive packages are ordered and shipped separately for field mounting. However, the units are shipped with the motor mounting assembly installed as shown in Figure 2 for the LA300, LB360, LB480 and Figure 3 for the LB600.

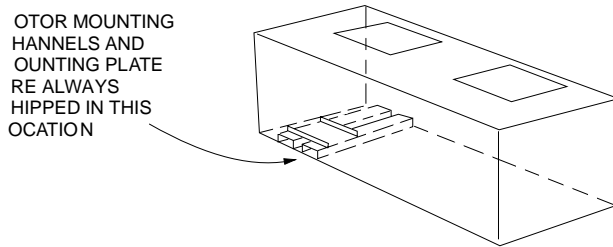


FIGURE 2: LA300 AND LB360/LB480 FACTORY MOTOR MOUNTING POSITION

NOTE: The 5HP motors are not inherently protected.

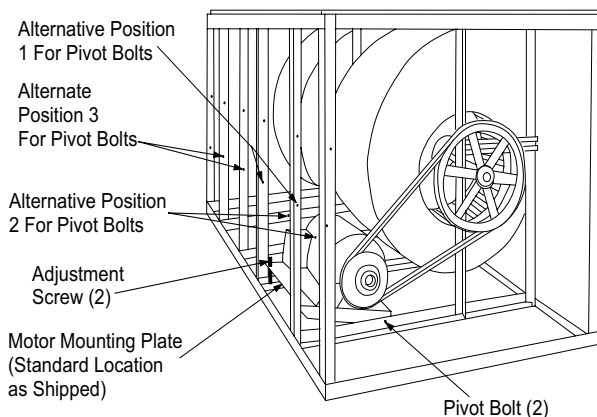


FIGURE 3: LB600 FACTORY MOTOR MOUNTING POSITION

The motors used with the evaporator blower are 3-phase and can drive the blower wheels from either end of the blower section. Reversing the direction of rotation can be accomplished by changing the connection of the power supply wiring at the motor terminal box.

NOTE: The 7.5-15 HP blower motors have solid bases and are not inherently protected. For proper operation, these motors require overload heater elements. Please see current product price pages for overloads.

LA300/LB360/LB480 MOTOR MOUNTING

The LA300, LB360 and LB480 ship from the factory with a motor mounting adapter plate for use with the 7.5 and 10 HP motors. If a 5 HP motor is used, the adapter is not necessary and should be removed and discarded.

LB600 MOTOR MOUNTING

The motor mounting plate will accommodate a 10 or 15 HP motor. One set of boltholes is provided on each end of the motor mounting plate for either motor. The motor mounting plate can be raised or lowered to any position on the adjustment screws to adjust the belt tension for the various pulley settings to cover the complete range of blower speeds.

The physical size of the 15 HP motor reduces the adjustment range of the motor mounting plate. To maximize this amount of adjustment, one set of boltholes is provided near the adjustment screws on each end of the motor mounting plate (refer to Figure 5).

For some motor/blower wheel arrangements, however, the motor cannot be mounted in these bolt holes because the motor terminal box would interfere with one of the blower section panels. To make these motor/blower wheel arrangements possible, a second set of boltholes is provided near the pivot bolts on each end of the motor mounting plate.

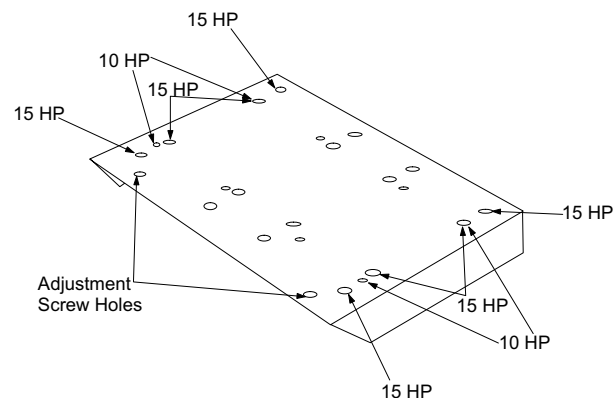


FIGURE 4: LB600 MOTOR MOUNT PLATE

The 15 HP drive package requires two different lengths of belts to vary the blower wheel RPM over the complete range of rated conditions. When the motor is mounted near the adjustment screws, the two lengths of belt are interchangeable except for the higher and lower limits of blower wheel RPM. When the motor is mounted near the pivot bolts, the shorter length of belt is recommended for the higher blower wheel Rpm's and the longer length of belt is recommended for the lower blower wheel Rpm's. See Page 7 for the recom-

mended blower motor locations.

MOTOR MOUNT ARRANGEMENTS

The motor mounting arrangement can be changed to allow motor access based on the airflow arrangement required. The recommended motor location for each blower arrangement is as follows.

LA300/LB360/LB480 MOTOR ARRANGEMENTS

The LA300, LB360 and LB480 units are shipped with the motor mount in location A as shown in Figure 5. If this is the desired position, the motor mounting assembly is already in the correct position and the motor and drive package can be installed without modifications.

ADDITIONAL MOTOR ARRANGEMENTS FOR LA300/LB360/LB480

Move the entire motor amounting assembly (both the mounting plate and the channels) so that the mounting plate will be in the correct location.

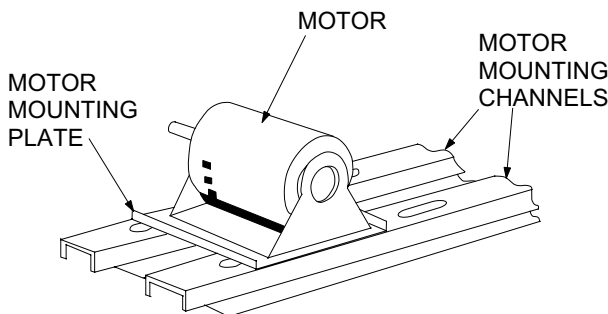


FIGURE 5: LA300/LB360/LB480 MOTOR LOCATION A

1. Rotate the motor mounting plate 180 degrees on the mounting channels. (For locations B, and D only! Do not rotate the plate for location C or E.)
2. Install the motor and drive package.

NOTE: The blower section must be lifted off the evaporator section to gain access to the mounting channel fasteners. Since these sections have to be repositioned for the arrangements 2 through 10 and 12 of Figure 7, the motor mounting assembly should be relocated before the two sections are rejoined.

ALTERNATE POSITION THREE

LB600 MOTOR ARRANGEMENTS

The LB600 unit is shipped with the motor mount in the standard location as shown in Figure 3.

If this is the desired position, the motor mounting assembly is already in the correct position and the motor and drive package can be installed without modifications.

RE-LOCATING THE LB600 MOTOR MOUNTING PLATE

The motor mounting plate can be re-located in three alternate positions:

ALTERNATE POSITION ONE

For locating motor mounting plate in alternate position one, see Figure 4 and re-locate as follows:

1. Remove pivot bolts from the mounting plate.
2. Remove the mounting plate from the adjustment screws.
3. Rotate mounting plate 180.
4. With pivot bolts removed in Step 1 fasten the mounting plate to alternate position No. one.
5. Fasten mounting plate to the adjustment screws.

ALTERNATE POSITION TWO

The motor mounting plate, the pivot bolts and the adjustment screws can be moved into a position similar to the one shown as standard in Figure 4 but under the other blower scroll. The framework under each blower scroll has the same bolthole arrangement.

The motor mounting plate, the pivot bolts and the adjustment screws can be moved into a position similar to the one

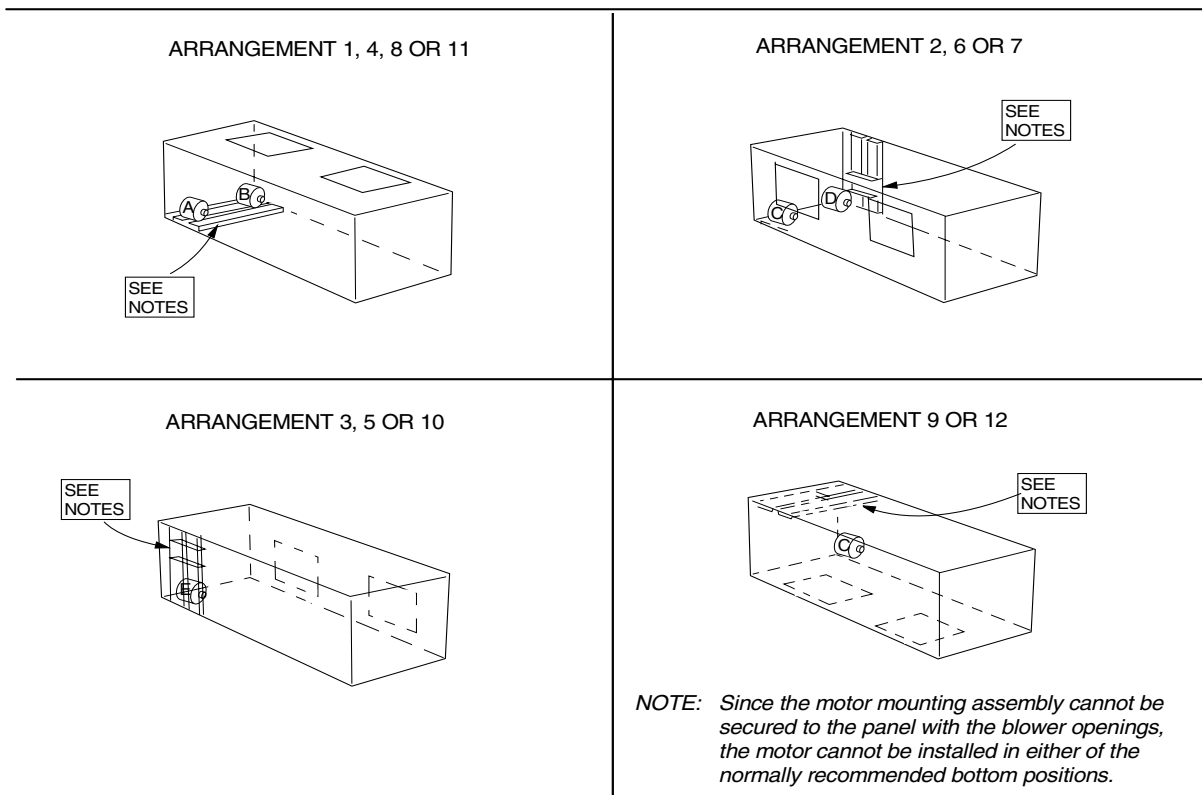


FIGURE 6: LA300/LB360/LB480 MOTOR ARRANGEMENTS

detailed in alternate position one but behind the other blower scroll. The framework behind each blower scroll has the same bolthole arrangement.

AIR DISCHARGE CONVERSION

LA360/LB360/LB480 AIR DISCHARGE

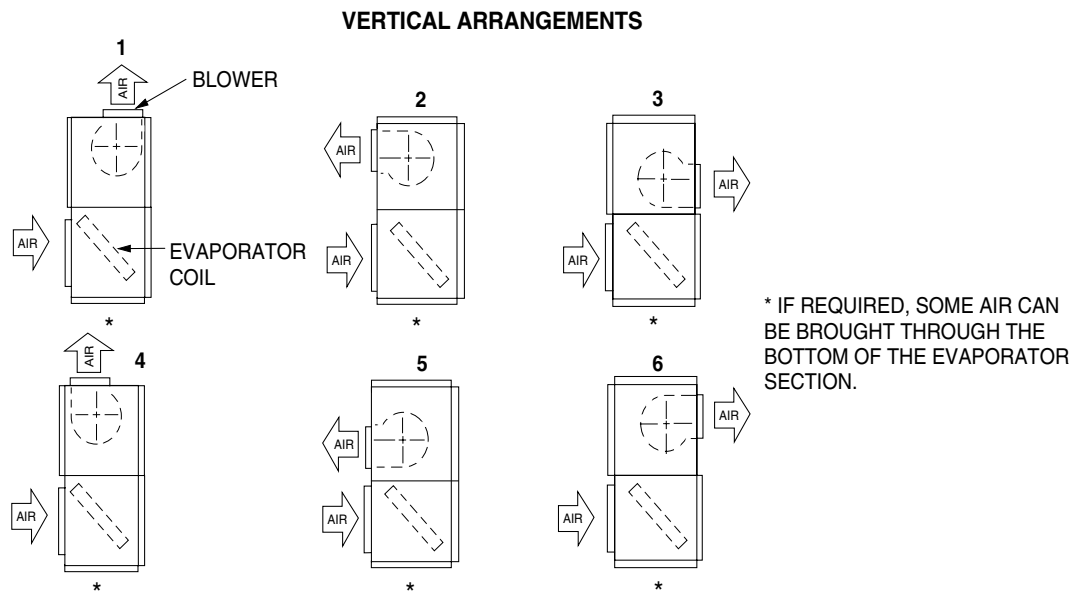
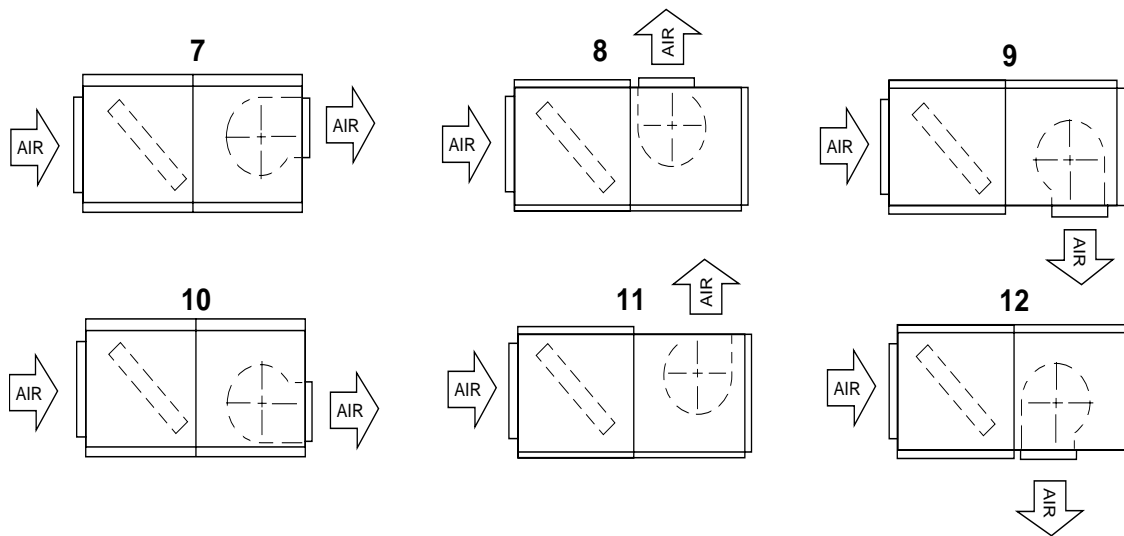
The LA300 LB360 and LB480 units are shipped for upflow operation, but may be converted for any of the illustrated air discharge patterns shown in Figure 8 and Figure 9. Convert as follows:

1. Remove the panels from the blower section.
2. Remove the Phillips machine screws located inside casing corner angles that hold the coil and blower sections together.

3. Rotate the blower section for the desired air discharge pattern.

NOTE: Before proceeding to step 4, see the section on the blower motor mounting locations and mount the blower motor in the desired position.

4. If accessory heating coils are used, mount heating coil between cooling coil and blower sections. Screw fastening locations are the same for all sections and heating accessories. If heating coils are not used, fasten coil section to blower section with machine screws removed in step 2.
5. Before replacing panels, see duct connections and drain connections.
6. Replace panels.

**FIGURE 7: VERTICAL AIRFLOW ARRANGEMENTS****FIGURE 8: HORIZONTAL AIRFLOW ARRANGEMENTS**

LB600 AIR DISCHARGE

The LB600 blower and coil section are shipped separately and must be joined in the field. The blower section can be mounted either above the coil for a vertical positioning or beside the coil for horizontal positioning. Both vertical and horizontal positions can be arranged for upward, downward, or horizontal air discharge.

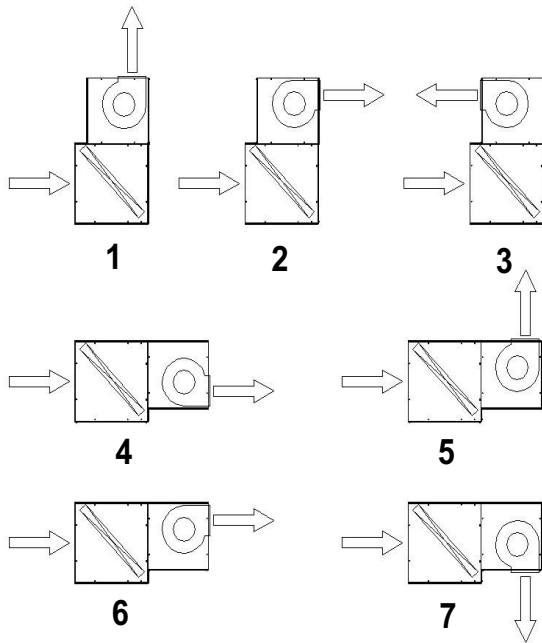


FIGURE 9: LB600 AIRFLOW ARRANGEMENTS

The coil section and the blower section may be assembled together as shown in Figure 9. All arrangements may be by rearranging the panels as shown.

When arranged vertically (Figure 9, arrangements 1 through 3), the LB600 can be set directly on any floor or platform that is capable of supporting its weight.

When arranged horizontally (Figure 9, arrangements 4 through 7), the evaporator coil section can be set directly on the floor, but a 9" support is required under the blower section to stabilize the unit. The support should extend the full width of the blower section and be located under the edge away from the evaporator coil section. If the unit does not have to be secured to the platform, the 9" support will not have to be bolted to either the blower section or the floor.

The evaporator blower arrangement 7 shown in Figure 9 is not recommended for bottom support due to interference with the ductwork connection.

NOTE: Ductwork should never be used to support the blower section. Refer to duct connection for more information

UNIT INSTALLATION

LOCATION

The evaporator blowers are not designed for outdoor installation. They must be located inside the building structure, either inside or outside the conditioned space where they are protected from rain and other such moisture.

The unit should be located as close to the condensing unit as practical and positioned to minimize bends in the refrigerant piping.

Units being installed vertically or horizontally can be set directly on a floor or platform, or supported by metal or wooden beams.

Units being installed horizontally (LA300, LB360 & LB480 only) can be suspended from above as shown in figure 12. Refer to form 035-18501-000 for more information on the installation of the suspension accessory and for the individual load on each hanger rod.

RIGGING

Care must be taken when moving the unit. Do not remove any packaging until the unit is near the place of installation. SPREADER BARS SHOULD BE USED BETWEEN THE SLINGS TO PREVENT CRUSHING THE UNIT FRAME OR PANELS. When preparing to move the unit, always determine the center of gravity of the unit in order to equally distribute the weight. Rig the unit by attaching chain or cable slings around the bottom skid. A lift truck may be used to raise a unit to a suspended location. Refer to Table 2 for the total unit operating weight.

CLEARANCES

A 25-inch clearance is required on the end with the piping connections and the supply air blower motor to properly service and maintain the unit and to replace the filters.

Some clearance will also be required for the duct and power wire connections. A clearance equal to the unit width is required on one end of the unit if the blower shaft or evaporator coil is to be replaced without moving the unit.

TABLE 3: UNIT MOUNTING DIMENSIONS

LA/LB UNIT	DIMENSIONS, INCHES		
	A	B	C
300	69-1/4	49-1/16	26-5/8
360	69-1/4	49-1/16	26-5/8
480	84	50-9/16	34

MOUNTING

The evaporator blower may be suspended from the joists with isolation type hangers or hooks. Suspension accessory 1HH0403, which includes three suspension channels and hardware, may be ordered separately. The channels extend

across the evaporator coil section, the heating coil section (if included) and the blower section. Each channel is to be bolted to each section as shown in Figure 10.

TABLE 4: CORNER WEIGHTS

UNIT-MODEL	Unit Weight		Unit Dimensions		Configuration	A	B	C	D
	Shipping	Operation	Length	Width					
LA300	1180	1125	110.46	88.46	HORIZONTAL	289	333	299	260
					VERTICAL	274	316	316	274
LB360	1180	1146	110.46	88.46	HORIZONTAL	330	380	251	218
					VERTICAL	318	366	265	231
LB480	1510	1426	128.46	88.46	HORIZONTAL	401	478	343	288
					VERTICAL	374	445	376	315
LB600	TBD	1640	128.46	88.46	HORIZONTAL	TBD	TBD	TBD	TBD
					VERTICAL	TBD	TBD	TBD	TBD

TABLE 5: ACCESSORY OPERATING WEIGHT DISTRIBUTION (LBS)*

ACCESSORY	LA300	LB360	LB480	LB600
BASE†	25	25	30	45
HOT WATER COIL	35	35	45	35
STEAM COIL 1 ROW	30	30	35	50

*. These weights should be added to each point load (W1 through W6) in table 5.

†. This accessory can only be applied on units installed in the vertical position.

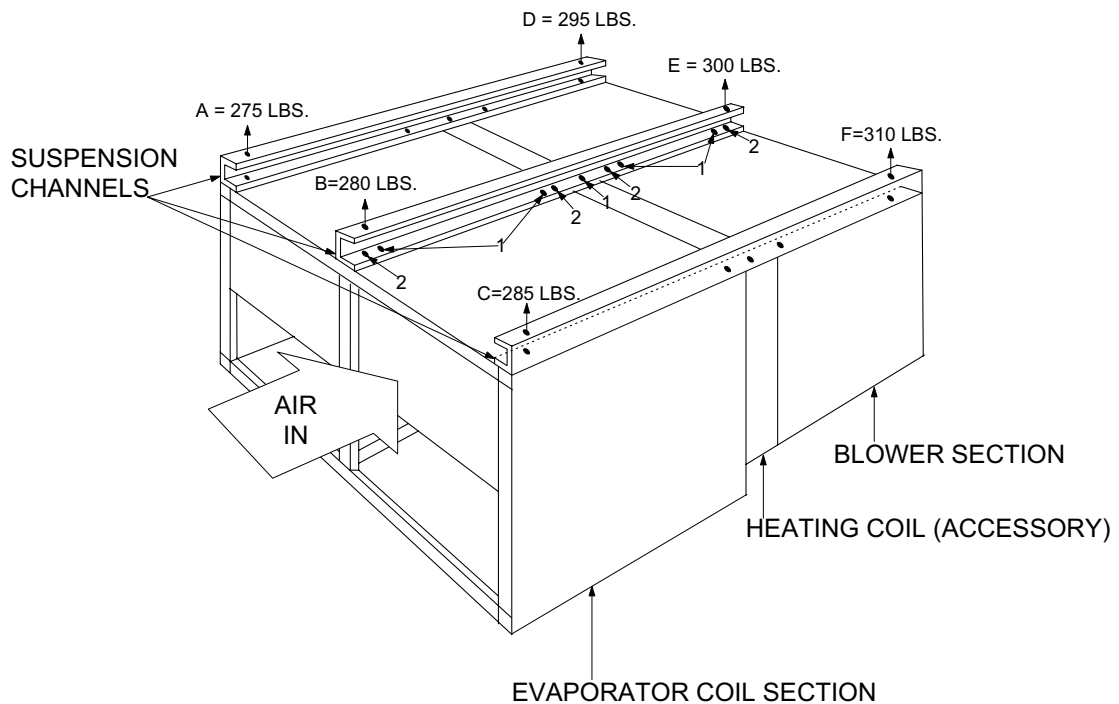


FIGURE 12: LB600 WEIGHT DISTRIBUTION WITH SUSPENSION APPLICATION

The weights for the LB600 shown in Figure 12 include only the evaporator coil section, the blower section with a 10HP motor and the suspension accessory. Add the weights listed for a horizontal arrangement in Table 2 to determine the weight distribution of the unit with accessories. See Figure 13 for details on connecting the center channel to the unit at points one and two.

The weights are located 5" from both ends of each suspension channel.

When arranged horizontally (see Figure 9) the LB600 evaporator blower can be suspended from overhead joists with hanger rods using the suspension accessory.

The suspension channels require no drilling or cutting. Each channel has enough holes in its bottom flange for:

1. Four bolted connections to the evaporator coil section. (Only two are used on the outside supports)
2. One bolted connection to the heating coil section.

3. Four bolted connections to the blower section. (Only two are used on the outside supports)

See Figure 13 for the bolted connection in detail.

When the heating section is not included, each channel will extend 3" beyond the front and the rear of the unit. Boltholes in the bottom flange of each channel will still align with the holes provided in the top framework of the evaporator coil section and the blower section.

For both outside channels and for the 1" locations on the center channel, the bolted connections are to be made where the top sheet metal panels are attached to the unit framework. The ¼" screws and cage nuts must be removed and may be discarded. For the 2" locations on the center channel, the bolted connections are to be made through the knockouts in the top sheet metal panels. 5/16" cage nuts are provided in the unit framework under these knockout locations. Note that these cage nuts are part of the basic unit. They are not supplied with the suspension accessory.

Refer to Figure 12 as well as Table 3 and Table 4 for mounting details and unit weight distribution.

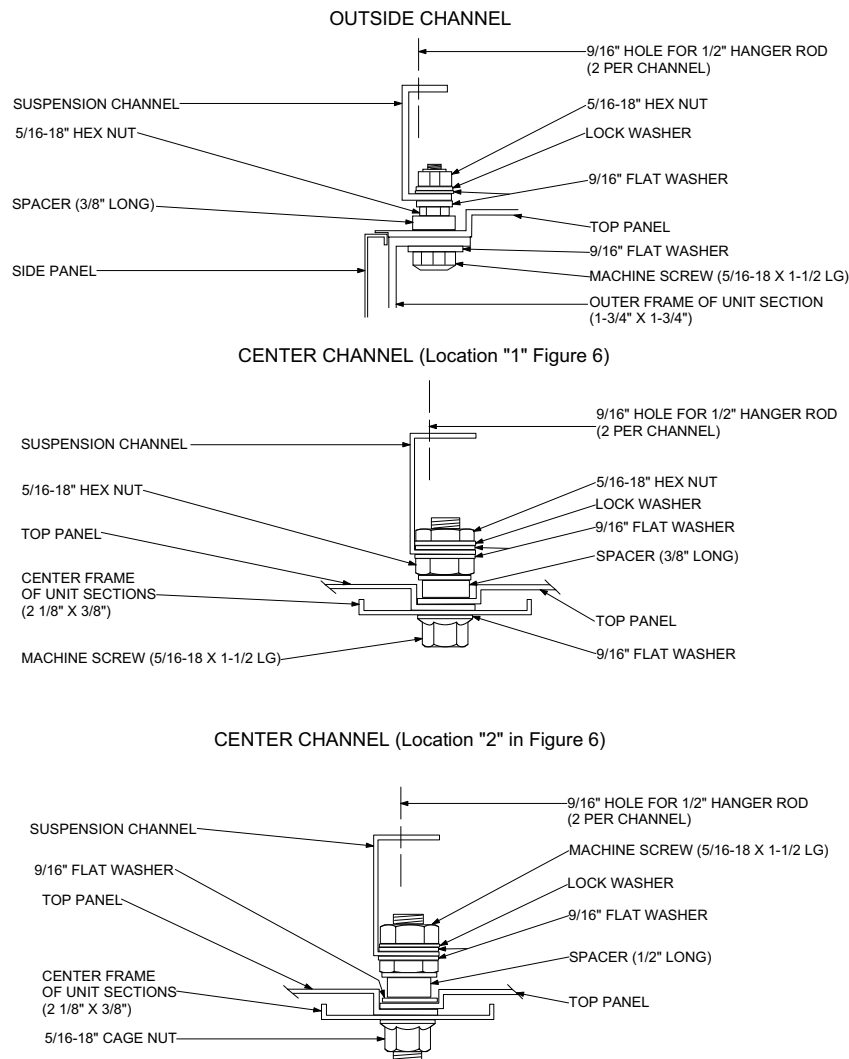


FIGURE 13: DETAILS FOR SECURING SUSPENSION CHANNELS

DUCT CONNECTIONS

Ductwork should always be suspended with hangers or supported by legs. It should never be fastened directly to the building structure.

Allow clearance around ducts for safety in the handling of heated air and for insulation when required.

INSULATION

Ductwork insulation should meet the following criteria:

Be used when ducts pass through an unconditioned space in the cooling season or through an unheated space during the heating season.

Include a vapor barrier around the outside to prevent the absorption of moisture.

Be no less than 2 inches thick with the weatherproof coating when applied to ducts exposed to outdoor conditions.

SUPPLY AIR DUCTS

See Figure 14 for suggested method of connecting supply air ductwork. Non-flammable material collars should be used to minimize the transmission of noise and/or vibration.

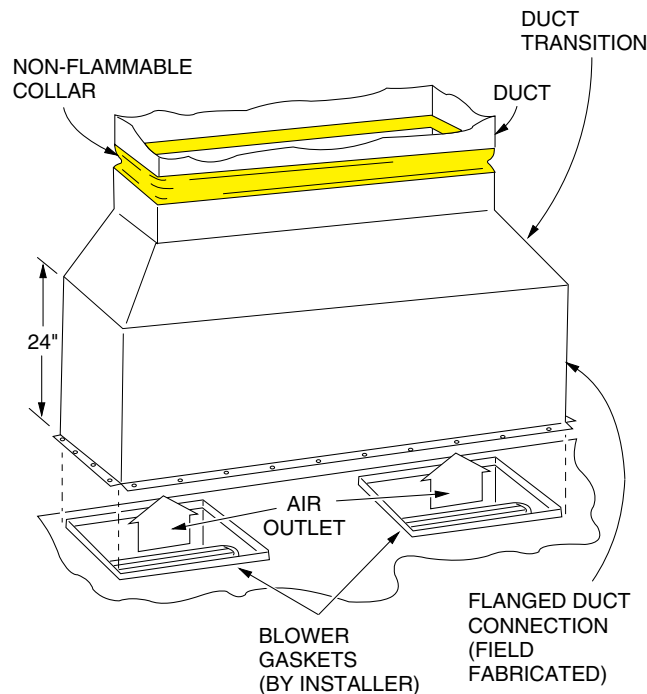


FIGURE 14: SUGGESTED METHOD FOR CONNECTING DUCTWORK

RETURN AIR DUCT ANGLES

Return air duct angles are shipped turned in. They are intended to be unscrewed and turned for connection of ductwork. The return air grille accessory attaches in the same manner as the panels.

DRAIN CONNECTIONS

All drain lines **MUST** be trapped and located so they will not be exposed to freezing temperatures.

The evaporator blower has 7/8" OD steel condensate stub at each end of a single drain pan. Both ends are closed with plastic caps. A plastic ell with clamps is provided. Attach the ell to the desired end and run a full size 7/8" drain line to the nearest drain facility. Seal the cap at the unused end with suitable mastic.

Drain piping should be constructed as shown in Figure 15. The 3-inch dimension must equal or exceed the negative static pressure developed by the supply air blowers. If it does not, the condensate will not drain properly and may overflow the drain pan. The trap must be at least 2-inches deep to maintain a water seal under all operating conditions, especially when the blowers are starting.

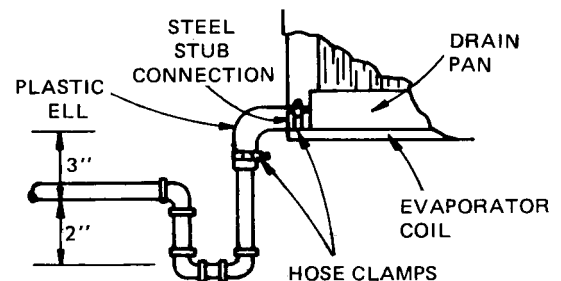


FIGURE 15: RECOMMENDED DRAIN PIPING

REFRIGERANT MAINS

Hard drawn copper tubing should be used where no appreciable amount of bending around pipes or other obstructions is necessary. Use long radius ells wherever possible. If soft copper is used, care should be taken to avoid sharp bends that may cause a restriction.

Where refrigerant lines pass through a wall, pack fiberglass insulation and a sealing material such as permagum around the refrigerant lines to reduce vibration and to retain some flexibility in the lines.

Suitable hangers, brackets or clamps should support the refrigerant lines.

Braze all copper-to-copper joints with Silfos-5 or equivalent brazing material. Do not use soft solder.

Never braze or solder the liquid and suction lines together.

The complete suction line should be insulated with no less than ½" Armaflex or equivalent.

If it is desirable to tape or wire the liquid and suction lines together for support purposes, they must be completely insulated from each other.

EVAPORATOR SECTION PIPING

The units are shipped with a holding charge of R-22. The connections are terminated with a copper disc brazed over the ends.

Before starting installation of the mains, be sure the unit has not developed a leak in transit by connecting a pressure gauge to the service access port. If pressure still exists, the circuit may be considered leak free. If pressure does not exist, the unit must be evacuated along with the field installed refrigerant piping.

NOTE: To minimize the possibility of system failure due to dirt and moisture, a filter-drier must be installed in each liquid line as close to the evaporator as possible. Filter-driers are not supplied with the evaporator blowers. They are supplied with the matching HA/HB series condensing units.

The temperature required to make or break a brazed joint is sufficiently high to cause oxidation of the copper unless an inert atmosphere is provided.

The liquid, suction and drain connections inside the unit must be piped to the outside. Refer to Figure 18 and Figure 22 for unit dimensions or the locations and the dimensions of the access openings in the unit panel.

Remove the evaporator holding charge and any caps or discs on the liquid and suction connections that will not permit a free flow of nitrogen.

Connect a supply of dry nitrogen through a reducing regulator to an access valve or charging tail. Choose a procedure that will allow nitrogen to flow continuously through the system and reach all joints to be brazed.

Begin the refrigerant main piping by installing the liquid line from the condensing unit to the evaporator liquid connection, maintaining a flow of nitrogen during all brazing operations. The filter drier and sight glass must be located in this line,

close to the evaporator. Make the suction line connection at the evaporator and run the line to the condensing unit.

After puncturing the sealing caps with a small drill bit, unbrazed the condensing unit suction disc and connect the line. Maintain a flow of nitrogen through the liquid line to the evaporator, through the evaporator, back to the condensing unit and out the suction connection and service port.

NOTE: Size the suction line outside the evaporator casing per the line sizing information provided in the condensing unit instruction form 035-18499-000.

EXPANSION VALVE BULB INSTALLATION

LA300

The bulbs for the thermal expansion valve on the blower units are not factory-installed in its final location; it's only temporarily taped for shipment. They must be fastened in a 4 o'clock and 8 o'clock position to the common suction line out of the evaporator coil after piping connections are made. Use the bulb clamps from the bag taped to the suction connection inside the blower unit.

LB360/LB480/LB600

The bulbs for the thermal expansion valve on the blower units are not factory-installed in its final location; it's only temporarily taped for shipment. The bulbs for system one must be fastened in a 4 o'clock and 8 o'clock position to the system one suction line of system one leaving the evaporator coil after piping connections are made. Repeat the procedure for system two, locating the bulbs in a 4 o'clock and 8 o'clock position to the system two suction line. Use the bulb clamps from the bag taped to the suction connection inside the blower unit.

NOTE: Ensure the TXV bulbs are not crossed between systems. Undesirable performance and possible compressor damage may occur.

BEARING ALIGNMENT: LB600

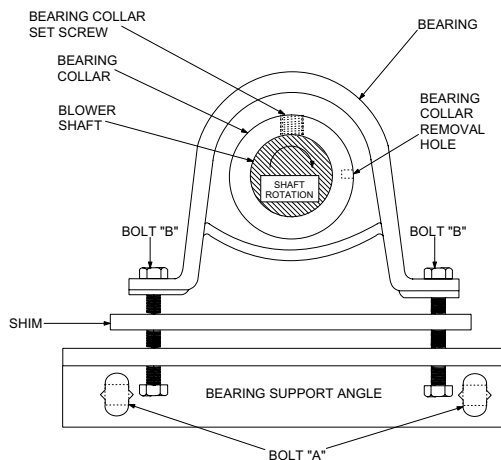
Before the supply air blower drive is installed, turn the blower assembly by hand several times. If it doesn't rotate freely, the center bearing may have been knocked out of alignment during shipping and/or rigging. To realign, refer to Figure 16 and the following instructions:

1. Loosen the bearing collar set screw.
2. With a drift pin in the bearing collar removal hole, loosen the bearing collar by tapping the drift pin in the direction opposite to the shaft rotation.
3. Loosen bolts "A" and "B".

4. Remove the shim.

NOTE: The bearing support angle must be horizontal to the unit and below the bearing.

5. Tighten bolts "B" without the shim.
6. Tighten bolts "A".
7. With a drift pin in the bearing collar removal hole, tighten the bearing collar by tapping the drift pin once in the direction of the shaft rotation.
8. Tighten the bearing collar set screw.
9. Loosen bolts "B"
10. Raise the blower shaft and re-install the shim between the bearing and the bearing support angle.
11. Tighten bolts "B".



**FIGURE 16: LB600 CENTER BEARING
AIR SYSTEM ADJUSTMENT**

Refer to tables 7-11 to adjust air system.

TWIN BELT DRIVE ADJUSTMENT

Check to see if both belts drive at the same speed. Do this by making a mark across both belts. Turn the drive several revolutions by hand. If mark has not separated, the belts are traveling at the same speed.

Twin groove blower motor pulleys should be installed with the shaft set screw (A) towards the motor (see Figure 17).

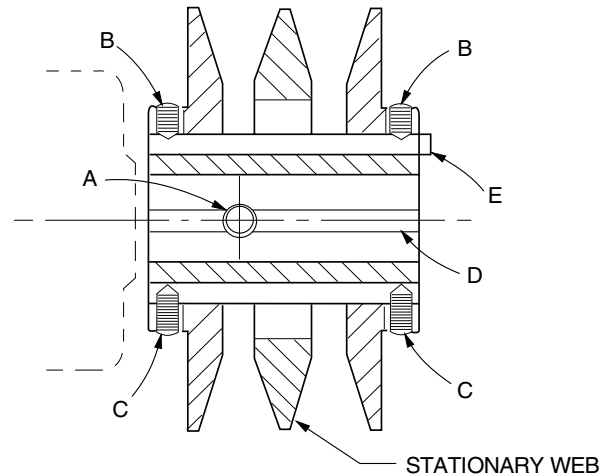


FIGURE 17: DOUBLE GROOVE PULLEY

If necessary to align pulleys, the housing of the twin groove motor pulley may extend 25% of its length beyond end of motor shaft.

Always align twin groove pulleys using the stationary web.

The blower motor pulleys are adjustable by half turns. Select required RPM from table 5 and adjust pulley.

Check belt tension. Drive packages are supplied with fiber-glass belts that must be properly tensioned at installation because they do not stretch. The belt should deflect 3/16" per foot of belt span with a 2 or 3-pound force. Alignment of the resilient motor mount can be corrected by adjustment at the slots on the end opposite the pulleys.

ELECTRICAL CONNECTIONS

Refer to Figure 30 for Indoor Unit Diagram.

Install a power supply to meet the requirements listed in table 6.

Provide a disconnect switch and fusing as required.

Install interconnecting control wiring between condensing section, evaporator blower and room thermostat.

NOTE: For the 10HP 200/208-volt motors, install the power wiring to the supply air blower through the starter.

TABLE 6: ELECTRICAL DATA

UNIT MODEL	HP	FLA	VOLTAGE (3PH-50HZ)	MIN CIRCUIT AMPACITY	MAX. FUSE SIZE (Amps)
LA300	5	15.6	220	19.1	35
		9.0	380	11.3	25
	7.5	23.9	220	29.9	60
		14.0	380	17.5	35
LB360	5.0	15.6	220	19.1	35
		9.0	380	11.3	25
	7.5	23.9	220	29.9	60
		14.0	380	17.5	35
	10	29.6	220	37.0	70
		17.3	380	21.6	40
LB480	7.5	23.9	220	29.9	60
		14.0	380	17.5	35
	10	29.6	220	37.0	70
		17.3	380	21.6	40
LB600	10	29.6	220	37.0	70
		17.3	380	21.6	40

TABLE 7: UNIT DRIVE DATA

UNIT MODEL	DRIVE KIT MODEL NUMBER	BLOWER* RPM RANGE	ADJUSTABLE MOTOR PULLEY		FIXED BLOWER PULLEY		BELTS		
			PITCH DIA. (IN.)	BORE (IN.)	PITCH DIA. (IN.)	BORE (IN.)	QTY.	PITCH LENGTH (IN.)	DESIGNATION
LA300	1LD0453	644 - 806	4.0 - 5.0	1 1/8	9.0	1 3/16	2	60.3	A59
	1LD0454	677 - 838	4.2 - 5.2	1 3/8	9.0	1 3/16	2	60.3	A59
LB360	1LD0453	644 - 806	4.0 - 5.0	1 1/8	9.0	1 3/16	2	60.3	A59
	1LD0454	677 - 838	4.2 - 5.2	1 3/8	9.0	1 3/16	2	60.3	A59
	1LD0455	854 - 1015	5.3 - 6.3	1 3/8	9.0	1 3/16	2	56.3	A55
LB480	1LD0456	620 - 752	4.7 - 5.7	1 3/8	11.0	1 3/16	2	83.8	B82
	1LD0457	765 - 923	5.8 - 7.0	1 3/8	11.0	1 3/16	2	85.8	B84
LB600	1LD0458	699 - 831	5.3 - 6.3	1 3/8	11.0	1 3/16	2	76.8	B75

*. Calculated at 1,450 rpm motor speed.

TABLE 8: UNIT BLOWER MOTOR DATA

UNIT MODEL	HP	MOTOR KIT MODEL NUMBER	FRAME SIZE	VOLTAGE (3PH-50-HZ)
LA300	5	2LP04605065	184 T	220/380
	7.5	2LP04607565	213 T	220/380
LB360	5.0	2LP04605065	184 T	220/380
	7.5	2LP04607565	213 T	220/380
	10	2LP04610065	215 T	220/380
LB480	7.5	2LP04607565	213 T	220/380
	10	2LP04610065	215 T	220/380
LB600	10	2LP04610065	215 T	220/380
	15	Field Supplied	Field Supplied	Field Supplied

MAINTENANCE

Filters must be cleaned or replaced as often as necessary to assure good airflow and filtering action.

To remove filters through the sides of the unit, remove either the solid side panel on the piping end, or the larger side panel on the end opposite the piping.

To remove the filters from the front of the unit, loosen 2 screws and raise the top filter retainer. The upper filters can

be lifted over the center filter lip. Three wing nuts are provided under the center filter retainer. Remove these and a part of the center filter support, giving access to the bottom filters.

Drain pan(s) should be inspected regularly to assure proper drainage.

The evaporator blower bearings and blower motor bearings are permanently lubricated.

TABLE 9: FAN PERFORMANCE DATA - 25-TON

RPM	CFM														
	8,000			9,000			10,000			11,000			12,000		
	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW
600	-	-	-	0.30	2.5	2.3	0.20	3.1	2.9	0.02	3.6	3.4	-	-	-
635	0.56	2.4	2.3	0.43	2.7	2.6	0.31	3.3	3.1	0.13	3.8	3.5	-	-	-
700	0.80	3.0	2.8	0.68	3.3	3.1	0.54	3.7	3.5	0.38	4.2	3.9	0.20	4.8	4.5
775	1.12	3.7	3.4	1.00	4.0	3.7	0.85	4.4	4.1	0.70	4.8	4.5	0.54	5.3	5.0
800	1.23	3.9	3.7	1.11	4.3	4.0	0.97	4.7	4.4	0.82	5.1	4.8	0.66	5.6	5.2
875	1.60	4.8	4.5	1.48	5.1	4.8	1.34	5.6	5.2	1.19	6.0	5.7	1.04	6.6	6.2
900	1.73	5.1	4.8	1.61	5.5	5.1	1.47	5.9	5.5	1.33	6.4	6.0	1.17	7.0	6.5
940	1.95	5.6	5.2	1.82	6.0	5.6	1.70	6.5	6.1	-	-	-	-	-	-

TABLE 10: FAN PERFORMANCE DATA - 30-TON

RPM	CFM														
	10,000			11,000			12,000			13,000			14,000		
	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW
600	0.38	2.8	2.4	0.23	3.3	2.9	0.06	3.9	3.4	-	-	-	-	-	-
635	0.52	3.1	2.7	0.37	3.7	3.2	0.21	4.3	3.7	0.03	4.9	4.2	-	-	-
700	0.77	3.8	3.3	0.64	4.4	3.8	0.49	5.0	4.3	0.33	5.6	4.8	0.17	6.3	5.4
775	1.11	4.7	4.1	0.99	5.3	4.6	0.85	5.9	5.1	0.70	6.5	5.6	0.55	7.2	6.2
800	1.20	4.9	4.2	1.08	5.5	4.8	0.94	6.2	5.4	0.79	6.9	6.0	0.64	7.6	6.6
875	1.54	5.9	5.1	1.42	6.5	5.6	1.29	7.1	6.1	1.16	7.8	6.7	1.03	8.6	7.4
900	1.65	6.2	5.4	1.54	6.8	5.9	1.41	7.4	6.4	1.28	8.1	7.0	1.16	8.9	7.7
970	2.00	7.2	6.2	1.88	7.8	6.7	1.76	8.5	7.3	1.65	9.2	7.9	1.54	10.0	8.6
1000	2.15	7.6	6.6	2.03	8.2	7.1	1.92	8.8	7.6	1.81	9.5	8.2	1.71	10.4	9.0

TABLE 11: FAN PERFORMANCE DATA - 40 TON

RPM	CFM														
	12,800			14,400			16,000			17,600			19,200		
	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW
600	0.84	6.0	5.2	0.63	7.2	6.2	0.40	8.4	7.2	0.13	9.7	8.4	-	-	-
660	1.19	7.3	6.3	1.00	8.5	7.3	0.78	9.8	8.5	0.50	11.2	9.7	0.19	12.7	11.0
700	1.42	8.2	7.1	1.25	9.4	8.1	1.03	10.7	9.2	0.75	12.2	10.5	0.45	13.7	11.8
760	1.78	9.5	8.2	1.63	10.8	9.3	1.43	12.3	10.6	1.16	13.8	11.9	0.86	15.6	13.5
800	2.02	10.4	9.0	1.89	11.8	10.2	1.69	13.3	11.5	1.43	14.9	12.9	1.14	16.9	14.6
900	2.62	12.8	11.0	2.53	14.5	12.5	2.40	16.0	13.8	-	-	-	-	-	-
930	2.80	13.5	11.6	2.72	15.3	13.2	-	-	-	-	-	-	-	-	-

TABLE 12: FAN PERFORMANCE DATA - 50 TON

RPM	CFM														
	16,000			18,000			20,000			22,000			24,000		
	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW	SP	BHP	kW
600	0.82	6.0	5.2	0.59	7.2	6.2	0.35	8.4	7.2	0.08	9.7	8.4	-	-	-
660	1.17	7.3	6.3	0.96	8.5	7.3	0.73	9.8	8.5	0.45	11.2	9.7	0.14	12.7	11.0
700	1.40	8.2	7.1	1.21	9.4	8.1	0.98	10.7	9.2	0.70	12.2	10.5	0.40	13.7	11.8
760	1.76	9.5	8.2	1.59	10.8	9.3	1.38	12.3	10.6	1.11	13.8	11.9	0.81	15.6	13.5
800	2.00	10.4	9.0	1.85	11.8	10.2	1.64	13.3	11.5	1.38	14.9	12.9	1.09	16.9	14.6
900	2.60	12.8	11.0	2.49	14.5	12.5	2.35	16.0	13.8	-	-	-	-	-	-
930	2.78	13.5	11.6	2.68	15.3	13.2	-	-	-	-	-	-	-	-	-

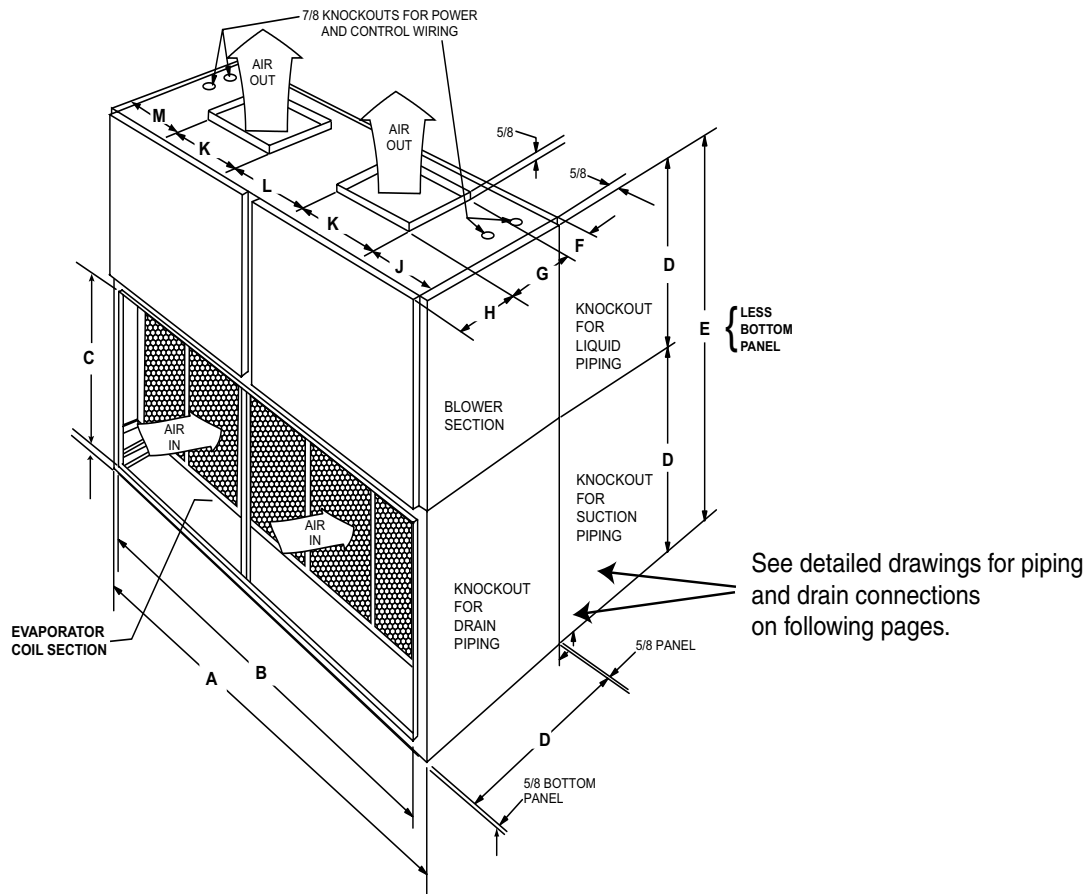


FIGURE 18: UNIT DIMENSIONS - LA300, LB360, 480

TABLE 13: UNIT DIMENSIONS - LA300, LB360, LB480

MODEL	A	B	C	D	E	F	G	H	J	K	L	M
LA300	100-1/8	95-5/8	33-1/4	36-5/8	74	2-1/2	18-7/8	16-1/2	15-13/16	21-7/8	18	22-9/16
LB360	100-1/8	95-5/8	33-1/4	86-5/8	73-1/4	2-1/2	18-7/8	16-1/2	15-13/16	21-7/8	18	22-9/16
LB480	103-1/8	95-5/8	40-5/8	44	88-5/8	2-1/2	18-7/8	23-7/8	20-11/16	21-7/8	18	22-11/16

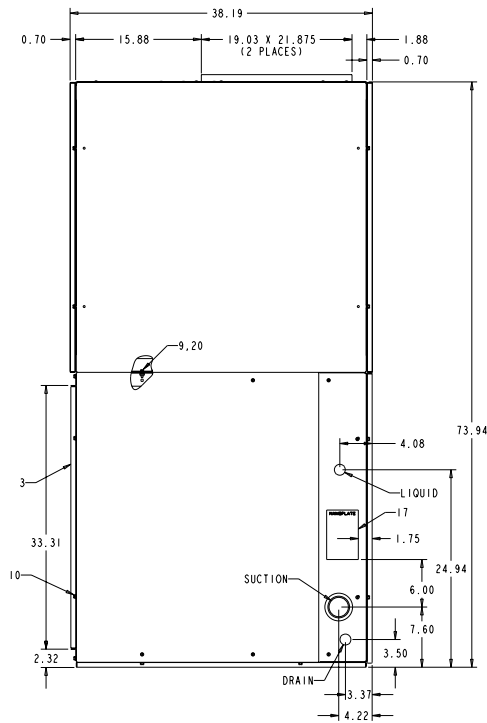


FIGURE 19: LA300 PIPING CONNECTIONS

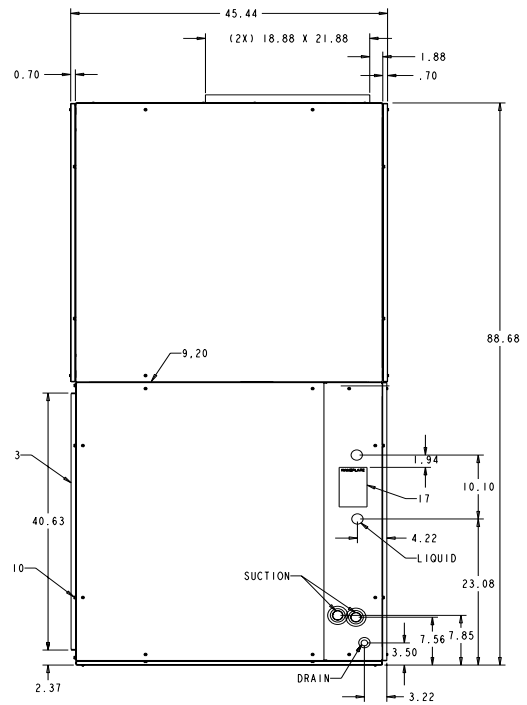


FIGURE 21: LB480 PIPING CONNECTIONS

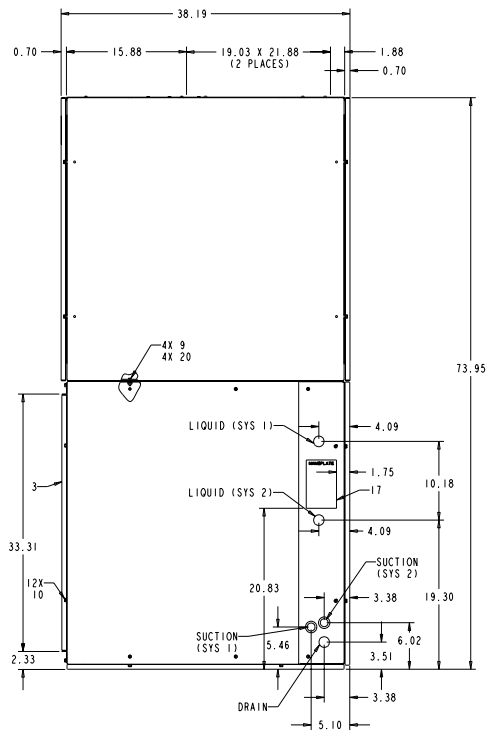


FIGURE 20: LB360 PIPING CONNECTIONS

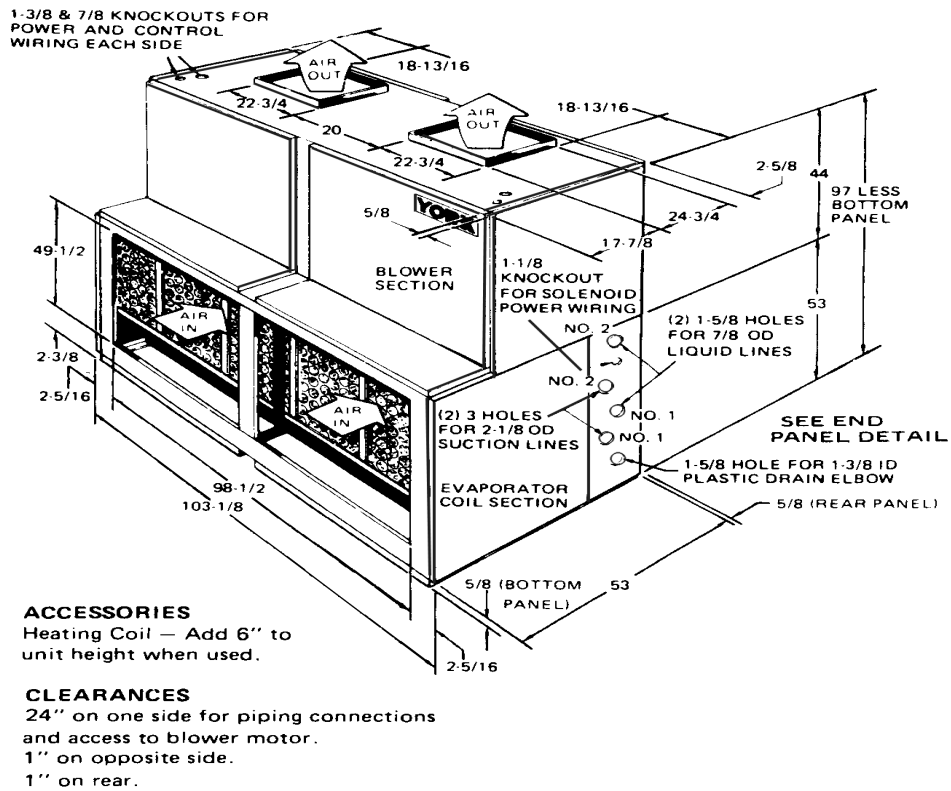


FIGURE 22: UNIT DIMENSIONS

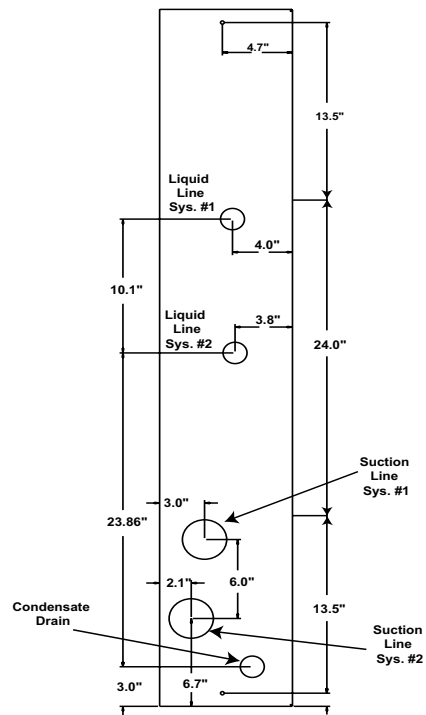


FIGURE 23: LB600 PIPING CONNECTIONS DETAIL

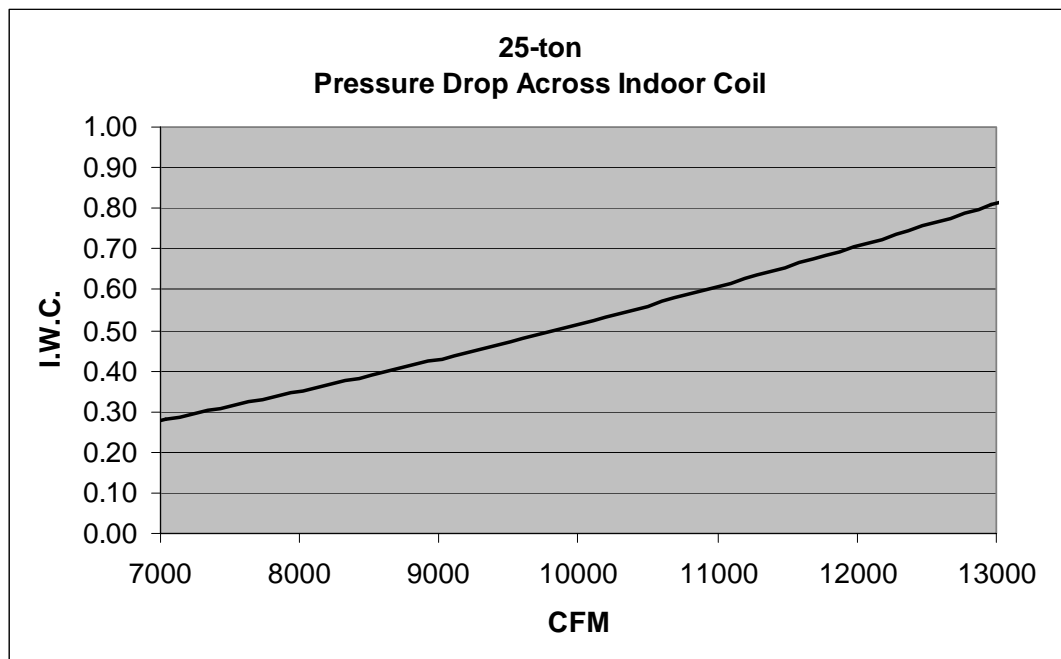


FIGURE 24: 25-TON PRESSURE DROP VS. CFM ACROSS INDOOR COIL

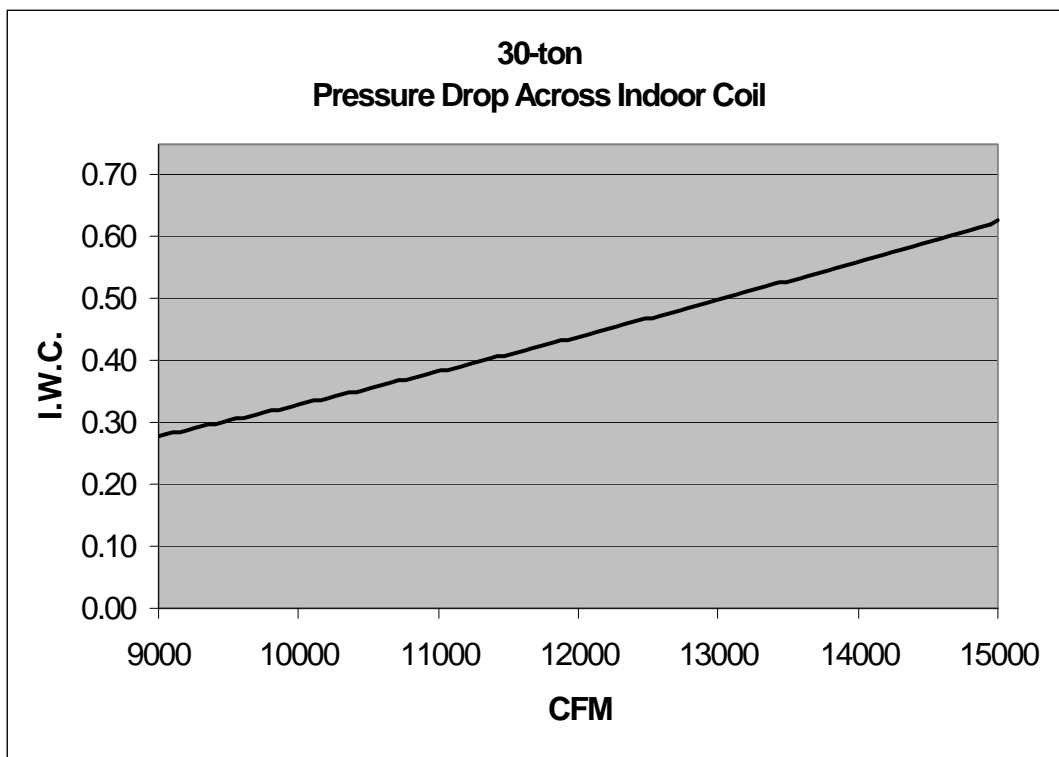


FIGURE 25: 30-TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL

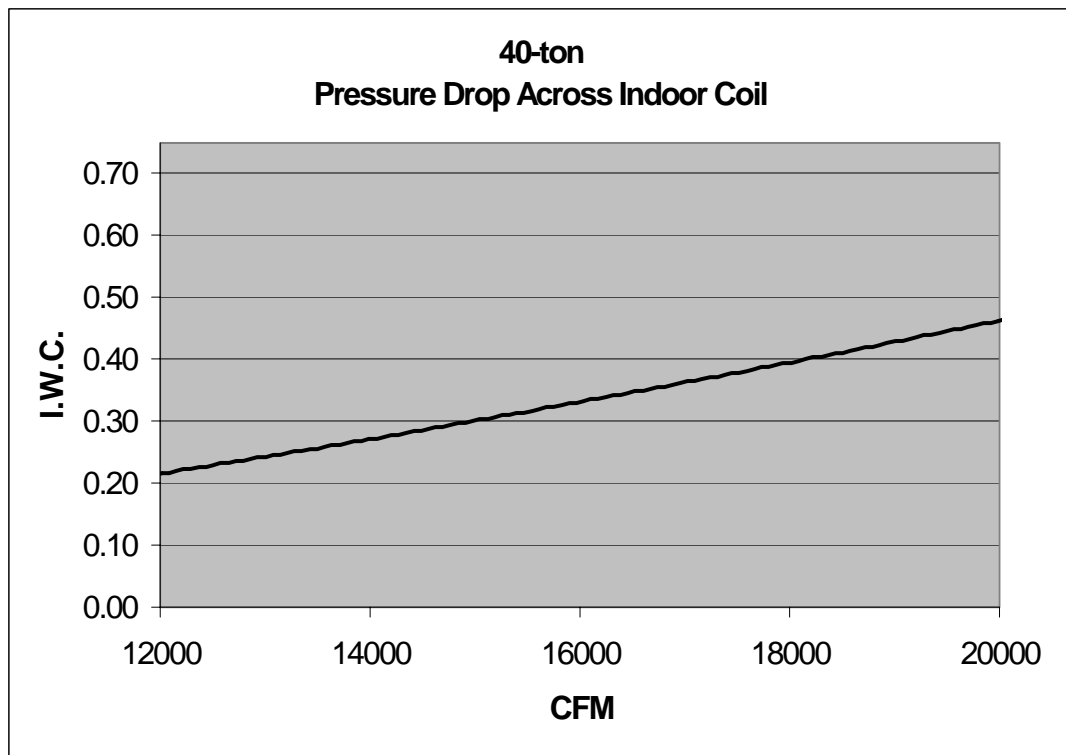


FIGURE 26: 40 TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL (DOMESTIC)

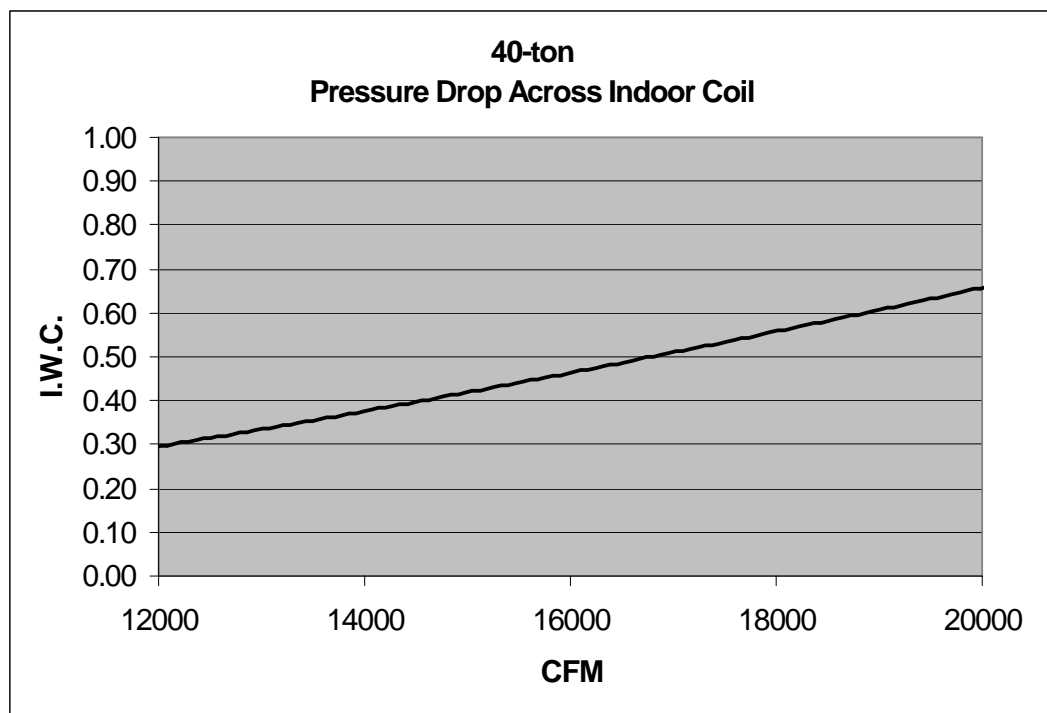


FIGURE 27: 40-TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL (INTERNATIONAL)

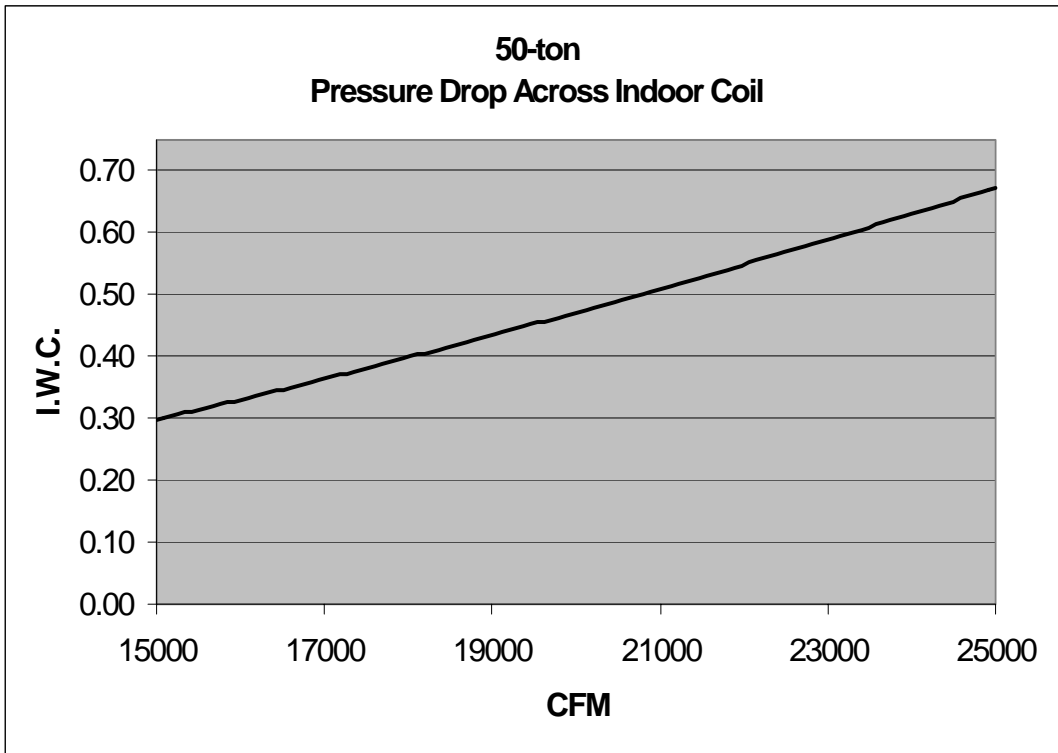


FIGURE 28: 50 TON - PRESSURE DROP VS. CFM ACROSS INDOOR COIL

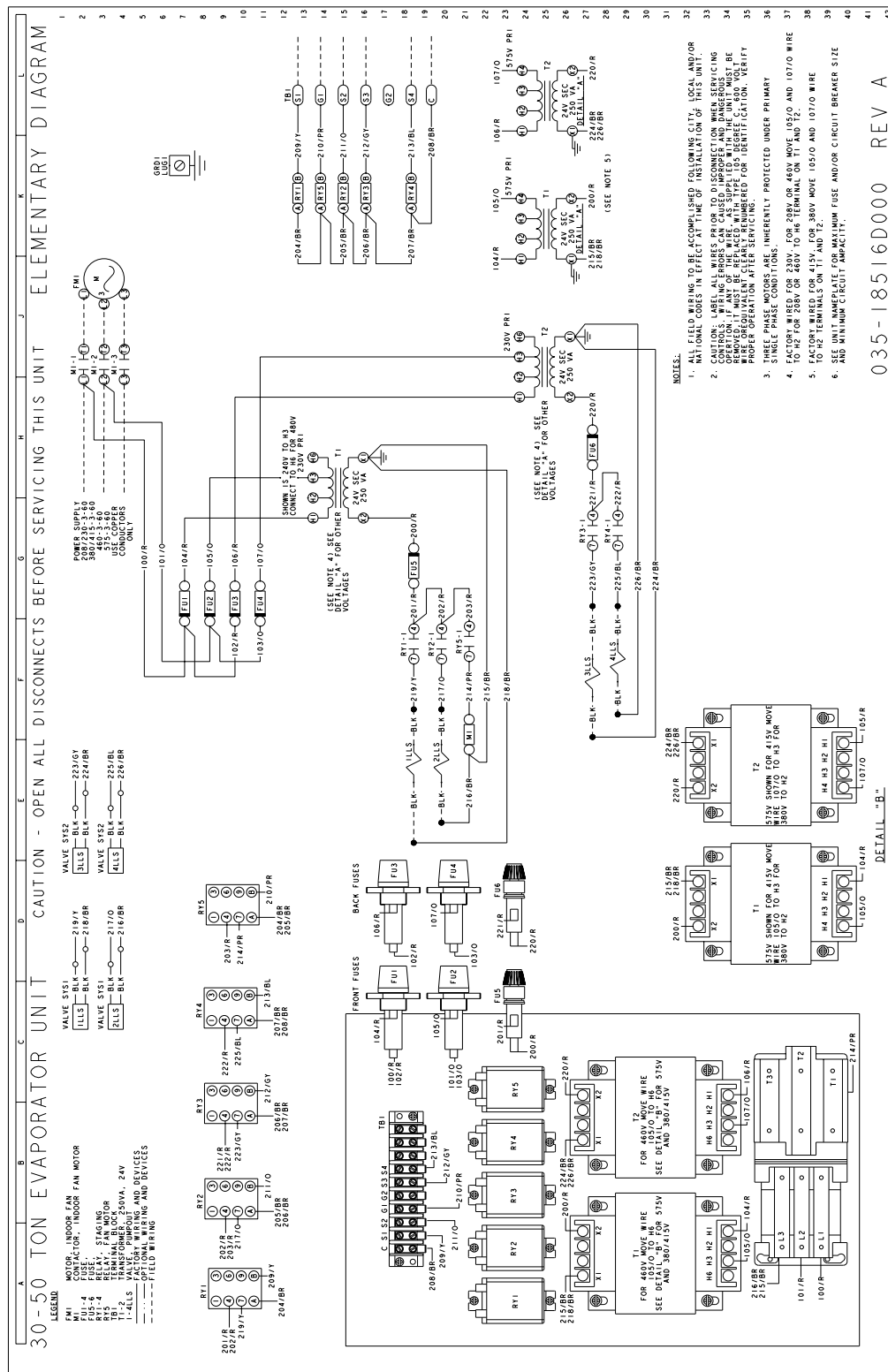


FIGURE 29: INDOOR UNIT WIRING DIAGRAM LB360, 480 & 600

FIGURE 30: INDOOR WIRING DIAGRAM LA300

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